Establishment of water recycling system for Patalganga industrial park in, India



Implementation systems

Fuji Electric Co., Ltd

Background

- Many small companies in India have dumped industrial effluent into river and sea without adequate treatment process.
- Although Central Pollution Control Board (CPCB) has mandated development of CETPs(Common Effluent Treatment Plant) in industrial areas, water pollution has become serious in existing CETPs and their surrounding areas because of inefficient operation and maintenance.
- As a result of industrial development, the demand for water in India is increasing. In 2030, water supplying capacity will reduce by 50% and <u>water shortage will be intensified</u> unless adequate water infrastructure is not constructed.

Project outline

- Utilizing water resource more effectively and improving water environment of the surrounding areas through <u>establishment of</u> <u>water recycling system</u> within CETPs in India
- Supplying recycled water at an affordable price than ever before by <u>use of technology for reducing water desalination</u> <u>cost</u> such as extension of maximum life-span of RO membrane, reduction of operating pressure, increase of hydraulic permeability
- Conducting a Feasibility Study during FY2014 as below:
 - Understanding regulatory status, water quality management of the selected industrial park
 - Confirming validity of effluent pretreatment (biological treatment, solids removal) and quality of recycled water.
 - Building relationships with the ministries and related parties
 - Considering a possible business model

Location



Outline of Technology





Patalganga CETP

- Biological treatment
 Dissolving organic sludge by bacteria
 which has higher ability than the
 conventional bacteria in biological
 reactor.
 Solids removal
- Removing solids (organic/inorganic) by MF/UF membrane filtration, sand filtration.
- Filtration treatment by RO membrane Removing salt, metallic ion by using RO membrane and <u>produce recycled water</u> for industrial use.

CETP Effluent
Biological treatment
Solids
Removal
Filtration treatment by
Recycled Water
(For industrial use)

Expected results and business prospects

- Expected Effect : Improvement of water environment in the surrounding areas, suppression of surface stream water / underflow water with decrease of quantity of water intake, decrease of water cost (merit for tenants in industrial parks)
- Outline of Business Model : Establishment of SPV (Special Purpose Vehicle) with Hydroair, which is an EPC partner company in India to recycle CETP effluent for industrial use and supply recycled water for tenants in the industrial park